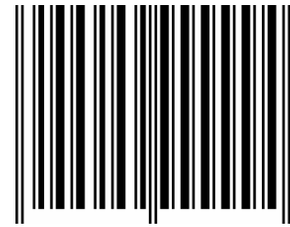
Omnidirectional Barcode Scanner User's Manual

V2.1.2

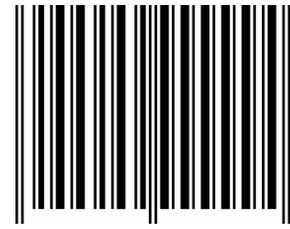
Enter/Exit Programming Mode



(This barcode is also found at the cover page)

★=Default Value

Enter/Exit Programming Mode



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INTRODUCTION

This is an advanced programming guide for omnidirectional laser barcode scanner. This guide contains serial of programming barcode labels, and by scanning these codes, it can make configurations of the scanner. This allows decoding options and interface protocols to be tailored to a specific application. The configuration is stored in non-volatile memory and will not be lost by removing power from the scanner, other than specified in this guide for any special functions or specification, please contact your dealer for detail.

The scanner must be properly powered before programming. For RS-232C type scanners, an external power adapter must be used to supply DC power to the scanner. If a keyboard emulation type scanner is used with an IBM PC/XT/AT, PS/2 or any fully compatible computer, power will be drawn from the keyboard port, therefore no external power adapter is required. If keyboard emulation type scanner is used with any other non IBM PC compatible computer, am external power may be required.

Under the programming mode, the scanner will acknowledge a good and valid reading with 3 short beep. It will give long beeps for either an invalid or bad reading.

CHANGE THE SCANNER SETTING

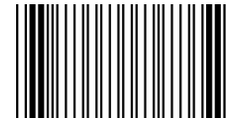
In order to change the scanner setting, please follow the steps below:

1. Scan the “Enter/Programming Mode” label. There will be beeps (low-high) indicating ready to make setting.
2. Scan the “Enter/Programming Mode” label again to save the configuration. There will be 2 beeps (long-short) indicating a successful setting.

After reading a valid barcode in programming mode, the scanner will give a high beep.

DEFAULT PARAMETERS

This table gives the default settings of all the programmable parameters. The default settings will be restored whenever the “Reset” programming label is scanned.



Reset (Return to factory default)

Default Values of Operating Parameters

Function	Default
Sleep mode	
Motor sleep mode	After 30 minutes
Laser sleep mode	After 10 minutes
Scanner timing	
Same code delay	300 msec
Beeper tone	
Frequency	medium
Duration	100 msec
Code identifiers	
Code ID	off
Code 39	M
ITF 2 of 5	I
Chinese post code	H
UPC-A	A
UPC-E	E
EAN-13	F
EAN-8	FF
Codabar	N
Code 128	K
Code 93	L
MSI/Plessey	P
RSS-14 standard	RS
RSS-limited	RL
RSS-expanded	RX

Default Values of Keyboard Emulation Parameters

Function	Default
Keyboard type selection	IBM PC/AT USA
Laser sleep mode	Enter/carriage return

Default Values of Serial Communication Parameters

Function	Default
Handshaking protocol	None
ACK/NAK response time setting	300msec
Baud rate	9600
Data bit	8
Stop bit	1
Parity	None
Message terminator selection	CR/LF

Default Values of USB Emulation Parameters

Function	Default
Keyboard type selection	US keyboard
Message terminator	Enter

Default Values of Wand Emulation Parameters

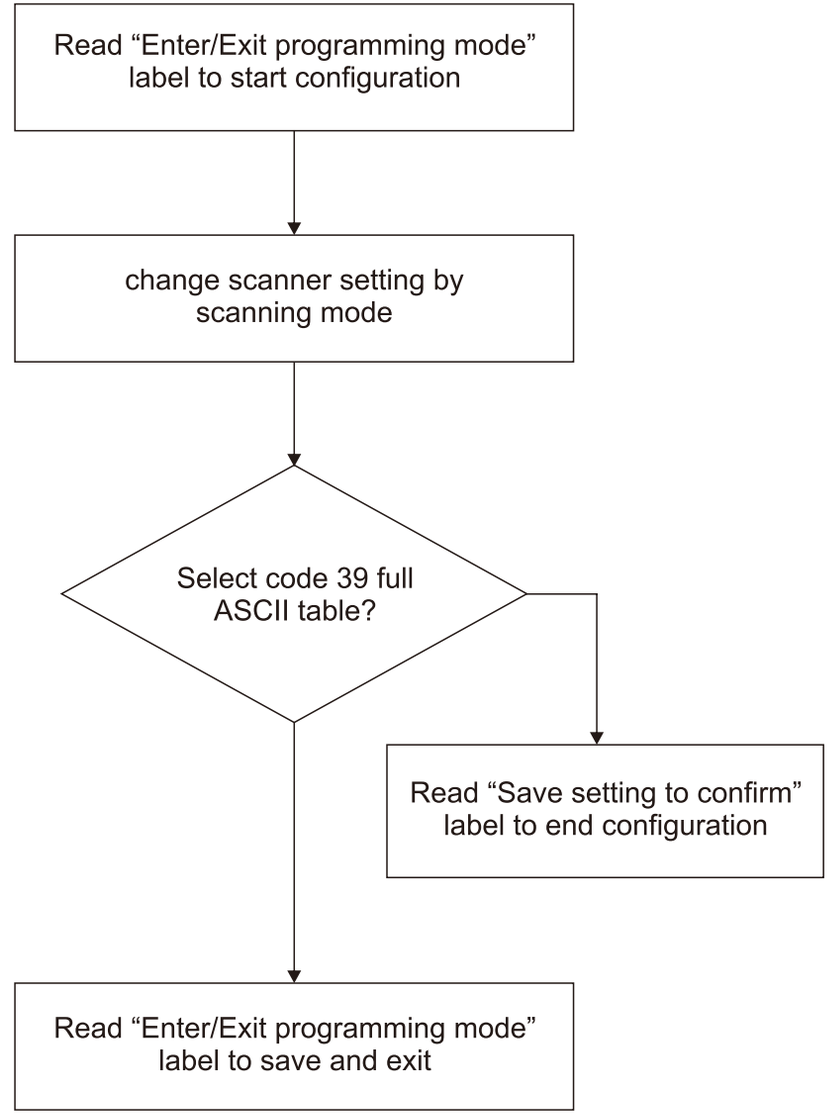
Function	Default
Wand emulation speed	Normal
Wand emulation output	Back=high
Data output format	Transmit as scan

Default Values of Decoding Parameters

Function	Code	Default Value
Reading codes selection	Code 39	Enable
	ITF 2 of 5	Disable
	Chinese Post Code	Disable
	UPC/EAN/JAN	Enable
	Codabar	Disable
	MSI/Plessey	Disable
	Code 128	Enable
	Code 93	Disable
	EAN-128	Disable
	Italy Pharmacy	Disable
	ISSN/ISBN	Disable
	RSS(GS1)	Disable
Code 39	Codes	Standard
	Start/Stop characters	No transmitting
	Check digit	Disable
	Concatenation	Off
	Length	3-32
Interleave 2 of 5	Length	6-32
	Check digit	Disable
Chinese Post Code	Length	10-32
	Check digit	Disable
Codabar	Type	Standard
	Start/Stop characters	A, B, C, D
	Lenght	6-32
Code 128	FNC2 append	Disable
	Check digit	Disable

Function	Code	Default Value
UPC/EAN/JAN	Format	All
	Addendum	Disable
	UPC-E=UPC-A	Disable
	UPC-A leading digit	Transmit
	UPC-A check digit	Transmit
	UPC-E leading digit	Transmit
	UPC-E check digit	Transmit
Code 93	Length	3-32
	Check digit	Not transmit
MSI	Length	6-32
	Check digit	Transmit
Italy Pharmacy	Transmit “A”character	Not transmitting
RSS-14	RSS-14 Standard	Disable
	RSS-14 limited	Disable
	RSS-14 expanded	Disable
	Transmit RSS-14 check digit	Enable
	Transmit RSS-14 application ID(01)	Enable
	Transmit RSS-14 limited check digit	Enable
	RSS-14/EAN-128 emulation	Disable
	Transmit RSS-14 limited application ID(01)	Enable
	Transmit RSS-14 expanded check digit	Enable
	Transmit AI(01) of expanded	Enable
	RSS-14 expanded/EAN-128 emulation	Disable

PROGRAM PROCEDURE USING MENUS

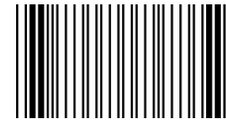

Read “Enter/Exit programming mode” label to start configuration
change scanner setting by scanning mode
Select code 39 full ASCII table?
Read “Save setting to confirm” label to end configuration
Read “Enter/Exit programming mode” label to save and exit

SYSTEM SETTING

The series scanner is a multi-interface communication scanner. If you had ordered only one type of interface, the device is configured in the interface requested, i.e. RS-232C, keyboard, wand emulation or USB, if not requested, the default interface is set in keyboard wedge interface (PC/AT). Use this section to change interface.

Reset (Return to Factory Default)

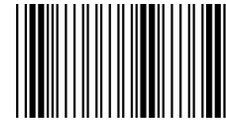
Reading of the “Reset” barcode label turns all parameters back to default values, and the scanner remains in the last interface set when it is reset.



Reset (Return to factory default)

Abort (Exit Programming Mode)

Reading of the “Abort” barcode label discards all the parameter read prior to scan the “Enter/Eixt Programming Mode”.



Abort (Exit programming Mode)

Return to PC/AT Default

This barcode allows setting in keyboard wedge interface for IBM PC AT/PS/2 and compatibles.

Return to PC/AT default

Return to RS-232 Default

The RS-232C interface scanner is often used when connecting to the serial port of a PC or terminal. Read the barcode to set the scanner into RS-232 interface

Return to RS-232 default

Return to USB Default

Reading of “Return to USB default” sets the device into USB interface support.

Return to USB default

Return to Wand Emulation Default

The wand emulation is achieved by decoding a scanned barcode and then encoding it again, so that the output is reading decode by an external decoder designed for processing of wand data.

Return to wand emulation default

Return as Customer Default

Reading of the label sets the device back to customer saved parameters settings.

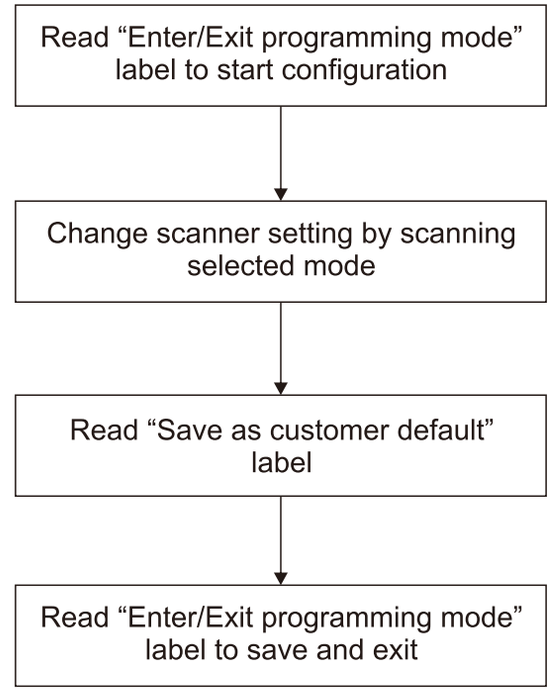
Return as customer default

Save as Customer Default

Reading of this label to save the desired parameters set into customer's own default setting.

Save as customer default

How to Save as Customer Default


Read "Enter/Exit programming mode" label to start configuration
Change scanner setting by scanning selected mode
Read "Save as customer default" label
Read "Enter/Exit programming mode" label to save and exit

SLEEP TIME SELECTION

In this section, user can set both laser and/or motor to either into sleep mode. The timeout programming labels will allow users to set the different time frame before entering into laser and/or motor sleep mode. The feature reduces power consumption and prolongs scanner life time.

NOTE: Laser always enters sleep mode before motor. If the motor timeout is set shorter than the laser time, then laser would enter sleep mode as motor enters sleep mode.

Motor sleep mode off

Motor sleep time 5 min

Motor sleep time 10 min

Motor sleep time 20 min

★Motor sleep time 30 min

Motor sleep time 60 min

Laser sleep mode off

Laser sleep time 5 min

★Laser sleep time 10 min

Laser sleep time 15 min

Laser sleep time 20 min

Laser sleep time 25 min

Laser sleep time 30 min

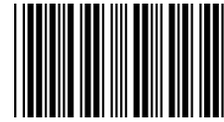
SAME CODE DELAY TIME

This parameter sets the minimum time allow between decodes of the same label.

Same code delay time 50 msec

Same code delay time 100 msec

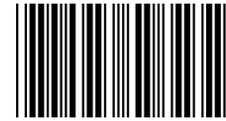
Same code delay time 200 msec



★Same code delay time 300 msec

Same code delay time 400 msec

Same code delay time 500 msec



Same code delay time 600 msec

Same code delay time 700 msec

Same code delay time 800 msec

Same code delay time 900 msec

Same code delay time 1000 msec

Same code delay time infinite

BEEPER SOUND SELECTION

This section includes all setting labels for beeper sound setting, including tone frequency, volume, duration time, power on beep enable/disable sound when the scanner enters sleep mode.

Led/Beep after transmission

★Led/Beep before transmission

★Power up tone enable

Power up tone disable

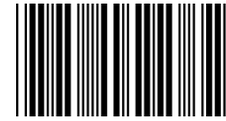
Sleep sound

★Sleep silent

Beeper Tone

★Medium beeper tone

Low beeper tone



High beeper tone

Speaker disable

Beeper Sound Duration

★Beeper sound duration (100msec)

Beeper sound duration (50msec)

Beeper sound duration (20msec)

Beeper sound duration (5msec)

Beeper sound duration (200msec)

Beeper sound duration (500msec)

Beeper Volume

★Loud beeper volume

Medium beeper volume

Low beeper volume

BARCODE IDENTIFIER CODE SETTING

The scanner can transmit maximum 2 digits barcode identifier code for different types of barcode. Use enable or disable identifier setting barcode.

The procedure is as follows:

1. Scan “Enter/Exit Programming Mode”.
2. Scan “Barcode identifier setting code”.
3. Scan the new code mark from the ASCII table (maximum 2 digits). For example, if AB is the code mark, then scan A and B.
4. Scan “Saving setting to confirm” label.
5. Scan “Enter/Exit Programming Mode”.

Barcode Identifier Code Selection

Scan “Enable identifier code” label to transmit the label ID as shown in the table below:

Code 39	M
ITF 2 of 5	I
Chinese post code	H
UPC-A	A
UPC-E	E
EAN-13	F
EAN-8	FF
Codabar	N
Code 128	K
Code 93	L
MSI/Plessey	P
RSS-14 standard	RS
RSS-14 limit	RL
RSS-14 expanded	RX

Enable identifier code

Enable identifier code table as AIM standard

Barcode Identifier Code Setting

Code 39 identifier code setting

ITF 2 of 5 identifier code setting

Chinese post code identifier code setting

UPC-E identifier code setting

UPC-A identifier code setting

EAN-13 identifier code setting

EAN-8 identifier code setting

Cadabar identifier code setting

Code 128 identifier code setting

Code 93 identifier code setting

MSI identifier code setting

Save setting to confirm

RSS-14 identifier code setting

RSS-14 limit identifier code setting

RSS-14 expanded identifier code setting

MESSAGE DELAY

This section contains different delay time frames between two consecutive message. This delay will be added before each data transmission.

★Inter message delay 0 ms

Inter message delay 100 ms

Inter message delay 500 ms

Inter message delay 1000 ms

CHARACTER DELAY

This option governs delay time between two consecutive characters, the delay time can be altered by scanning the following labels.

★Inter character delay 0 ms

Inter character delay 2 ms

Inter character delay 5 ms

Inter character delay 10 ms

Inter character delay 20 ms

Inter character delay 50 ms

INTERFACE COMMUNICATION SETTING

This section contains labels to configure the scanner to user's host terminal. The following interface are supported:

*Keyboard interface
*RS-232C interface
*USB interface
*Wand interface

RS-232C Interface Configuration

Baud rate

38400

19200

★9600

4800

2400

1200

57600

115200

Data Bit Setting

7 data bit

★8 data bit

Stop Bit Setting

★1 stop bit

2 stop bit

Parity Bit Setting

Even parity

Odd parity

Mark parity

Space parity

★None parity

Hand Shaking Protocol

The RS-232C type scanner support four handshaking protocol. With these options of communication protocol, users can tailor the scanner to meet the requirement of most system. These handshaking protocol are:

None:

The scanner will transmit any read data unconditionally. The scanner will not check the receiving device or the transmitted message.

RTS/CTS:

Under this handshaking protocol, the scanner use the RTS pin to instruct the connected device to transmit data and test the CTS pin for readiness of the connected device to receive data.

ACK/NAK:

The scanner waits for an ACK or NAK signal from the host computer after each data transmission. Normally, the scanner will temporarily stored data in the memory buffer before receiving the ACK or NAK signal. If the ACK signal is received, it will clear the transmitted data and continue to send the next data. In case the NAK signal is received, it will repeat to transmit the same data until receiving the ACK signal.

Xon/Xoff:

During the data communication, if a scanner receives an Xoff (ASCII 013H), it will stop the transmission at once. The scanner waits for a Xon (ASCII 01H) to start the transmission again.

★None handshaking

ACK/NAK

Xon/Xoff

RTS/CTS

ACK/NAK Response Time Setting

★ACK/NAK response time 300ms

ACK/NAK response time 500ms

ACK/NAK response time 1s

ACK/NAK response time 2s

ACK/NAK response time 3s

ACK/NAK response time 5s

ACK/NAK response time infinity

★Disable ACK/NAK timeout beeper

Enable ACK/NAK timeout beeper

Enable beeper on <BEL> character

★Ignore beeper on <BEL> character

Message Terminator for RS-232

The series RS-232C type scanner can be programmed to append a terminator to every message sent via the serial port. Different terminator will be appended at the end of message sent from the serial port.

RS-232 message terminator---none

★RS-232 message terminator---CR/LF

RS-232 message terminator---CR

RS-232 message terminator---LF

RS-232 message terminator---H tab

RS-232 message terminator---STX/ETX

RS-232 message terminator---EOT

USB HID & Keyboard Wedge Interface Configuration

Message Terminator for Keyboard Wedge

Keyboard terminator---none

★Keyboard terminator---Enter

Keyboard terminator---H tab

Keyboard Language Selection

Enable international keyboard type
(Alt method)

★Keyboard language support---USA

Keyboard language support---Germany

Keyboard language support---UK

Keyboard language support---French

Keyboard language support---Spanish

Keyboard language support---Italy

Keyboard language support---Swiss

Keyboard language support---Swedish

Keyboard language support---Janpanese

Keyboard language support---Belgium

Keyboard language support---Turkish

Capital Lock

Select the suitable code to math your keyboard caps status.

★Reset

Shift

Capital lock on

Function Key Emulation

In this section, user can emulate function keys. Arrow keys, and many other extended keys. An IBM compatible keyboard does not translate to ASCII characters; it can be concatenated with input data as header and/or trailer.

Function key emulation enable

★Function key emulation disable

Wand Emulation Configuration

Emulation Speed Selection

The data output speed can be set to befit the external decoder.

Wand emulation speed=Low
(1ms narrow element width)

★Wand emulation speed=Medium
(600us narrow element width)

Wand emulation speed=High
(300us narrow element width)

Wand emulation speed=Higher
(100us narrow element width)

Emulation Data Output Selection

The decoded data output logic level can be set to befit the external decoder.

★Wand emulation data output black=high

Wand emulation data output black=low

★Wand data transmitted as scanning

Enable wand output data format as code 39

Emulation Data Idle Selection

The level refers to wand emulation data signal with not in use.

★Idle=high

Idle=low

DATA EDIT

Prefix and Suffix

The prefix and suffix section allows you to append a Prefix and/or Suffix to every message transmitted via the serial port, USB or the keyboard port. There is no restriction in selecting Prefix or Suffix characters as far as the sum of the lengths of Prefix and Suffix is not greater than 10 digits.

1. Selection either Prefix or Suffix you are going to program by scanning the corresponding label.
2. Scan the characters you want from the ASCII table to set as header or trailer. (Be sure to enable full ASCII code 39 option before you start)
3. Read the “Save setting to confirm” label to confirm you choice into memory.

Prefix

Suffix

Save setting to confirm

Truncate Header/Trailer Character

This setting allows you to truncate a number of header or trailer for symbology. As a result, the specific character you select is deleted from the symbology you want.

1. Scan the “Enter/Exit programming mode” label.
2. Select the “Truncate header /truncate trailer” label.
3. Scan two barcode values from the full ASCII code table(0-9). For example, scan 0 and 2 if you want to clear the number 2 from header.
4. Scan “Saving setting to confirm” label.
5. Scan “Enter /Exit programming mode” label to end of configuration.

Truncate header character

Truncate trailer character

Add Code Length

This option allows you to add the reading barcode numeric characters as header.

Add code length as header enable (all barcode)

★Add code length as header disable (all barcode)

SYMBOLOGY CONFIGURATION

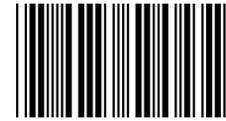
In this section, device can be programmed to recognize one or more barcode symbologies automatically. If the scanner is configured to support multiple barcode symbologies, the scanner will discriminate different symbologies automatically. However, to improve scanning performance, you should enable only the symbologies that will be in active use.

Reading Code Selection

★Code 39 enable

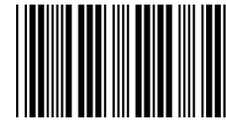
Code 39 disable

Codabar enable



★Codabar disable

★UPC/EAN/JAN enable



UPC/EAN/JAN disable
(only can’t transmitted but can decode)

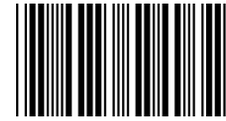
ITF 2 of 5 enable

★ITF 2 of 5 disable

Chinese post code enable

★Chinses post code disable

★Code 128 enable



Code 128 disable

Code 93 enable

★Code 93 disable

EAN-128 enable

★EAN-128 disable

EAN convert to ISSN/ISBN

★EAN convert to ISSN/ISBN disable

Code 32 enable

★Code 32 disable

MSI enable

★MSI disable

UPC/EAN Parameters Setting

In this section, device can be programmed to recognize some or all derivatives of UPC/EAN.

These derivatives are UPC-E, UPC-A, EAN-8, EAN-13, Either 2 or 5 addendum digits is supported, addendum digits are those additional digits after normal stop character.

The programming menu for UPC/EAN/JAN also provides several options to govern the transmission of scanned data.

*UPC/EAN expansion

*Check digit transmission

*Data redundant check

*Addendum seek timeout

*Addendum left/right margin adjust

Format

★UPC/EAN/JAN enable

EAN-8 or EAN-13 enable

UPC-A and EAN-13 enable

UPC-A and UPC-E enable

UPC-A enable

UPC-E enable

EAN-13 enable

EAN-8 enable

Force UPC-E to UPC-A Foramt

Force UPC-E to UPC-A foramt enable

★Force UPC-E to UPC-A foramt disable

Force UPC-A to EAN-13 Foramt

Force UPC-A to EAN-13 foramt enable

★Force UPC-A to EAN-13 foramt disable

Force EAN-8 to EAN-13 Foramt

★Force EAN-8 to EAN-13 foramt disable

Force EAN-8 to EAN-13 foramt enable

EAN-13 country code first “0” can transmitted

★EAN-13 country code first “0” can’t transmitted

Transmit UPC-A Check Digit

★Transmit UPC-A check digit enable

Transmit UPC-A check digit disable

Transmit UPC-E Leading Character

★Transmit UPC-E leading character enable

Transmit UPC-E leading character disable

Transmit UPC-E Check Digit

★Transmit UPC-E check digit enable

Transmit UPC-E check digit disable

Transmit EAN-8 Check Digit

★Transmit EAN-8 check digit enable

Transmit EAN-8 check digit disable

Transmit EAN-13 Check Digit

★Transmit EAN-13 check digit enable

Transmit EAN-13 check digit disable

Transmit UPC-A Leading Character

★Transmit UPC-A leading character enable

Transmit UPC-A leading character disable

Addendum

★UPC/EAN addendum off

Addendum 5 only

Addendum 2 only

Addendum 2 or 5

Addendum on Format

EAN/UPC+Addendum format with separator

★EAN/UPC+Addendum format without separator

★EAN/UPC+Addendum (none mandatory)

EAN/UPC+Addendum (mandatory)

EAN/UPC + addendum mandatory for 378/379 French
Supplement requirement not sent for other

EAN/UPC +addendum mandatory for 978/977
book land Supplement requirements
Not sent for other

EAN/UPC + addendum mandatory for 434/439
German Supplement requirement
Not sent for other

EAN/UPC + addendum mandatory for 419/414
Euro amounts Supplement requirement
not sent for other

EAN/UPC + addendum mandatory for 978/977
Book land Supplement requirement
optionally for other

EAN/UPC + addendum mandatory for 434/439
German Supplement requirement
optionally for other

EAN/UPC + addendum mandatory for 419/414 Euro amounts Supplement requirement optionally for other

EAN/UPC + addendum mandatory for 491 Japanese (bookland) Supplement requirement optionally for other

EAN/UPC + addendum mandatory for 491 Japanese (bookland) Supplement requirement Not sent for other

★Double code not allowed

Double code mandatory for 978/192

Double code format without separator

★Double code format with separator

Double code format with free (one character)

Data Redundant Check

In this section, user can set decoder data redundant check, before it is accept as a good read. A higher data redundant check read setting offers more assurance that a barcode has been read correctly, while a lower setting allows faster scanning performance.

UPC-A Data Redundant Check

UPC-A data redundant check=0

★UPC-A data redundant check=1

UPC-A data redundant check=2

UPC-A data redundant check=3

UPC-E Data Redundant Check

UPC-E data redundant check=0

★UPC-E data redundant check=1

UPC-E data redundant check=2

UPC-E data redundant check=3

EAN-13 Data Redundant Check

EAN-13 data redundant check=0

★EAN-13 data redundant check=1

EAN-13 data redundant check=2

EAN-13 data redundant check=3

EAN-8 Data Redundant Check

EAN-8 data redundant check=0

★EAN-8 data redundant check=1

EAN-8 data redundant check=2

EAN-8 data redundant check=3

Code 39 Parameters Setting

The scanner can be programmed to support the standard code 39 or Full ASCII code 39. In addition, it is user's option transmit or not to transmit the start and stop characters. You can also enable or disable the check digit feature. If the check digit feature is enable, you have the further option to device whether the check digit is transmitted or not.

Character Setting

★Standard code 39

FULL ASCII code 39

Start/Stop Character Transmission

Code 39 start/stop character transmission

★Code 39 start/stop character without transmission

Check Digit

Code 39 check digit calculate and transmit

Code 39 check digit calculate but without transmit

★No check character

Code 39 Reading Length Setting

The default code 39 length is 3-32 character. It can be set at minimum 1 digit and maximum 62 digits.

CODE LENGTH SETTING FLOW

Programming minimum or maximum label

↓

Scan two number labels from code 39 FULL ASCII table. Example: For 4 character length scan on o and 4.

↓

Scan “Save setting to confirm”label to confirm your choice into memory

Code 39 maximum length setting

Code 39 minimum length setting

Save setting to confirm

Concatenation

Code 39 concatenation enable

★Code 39 concatenation disable

Code 32 Prefix Character

Transmit Code 32 Prefix character

★Do not transmit Code 32 Prefix character

Data Redundant Check

In this section, users can use labels to set decoder data redundant check before it is accepted as a good read. A higher data redundant check read setting offers more assurance that a barcode has been read correctly while a lower setting allows faster scanning performance.

Code 39 data redundant check=0

★Code 39 data redundant check=1

Code 39 data redundant check=2

Code 39 data redundant check=3

CODABAR Parameters Setting

In this section, there are varies setting for codabar symbology, including:

*Check character verification or transmission

*CODABAR concatenation

*Data redundant check

*Start/Stop character

*Min/Max length setting

Format

Codabar start/stop character transmission ---- none

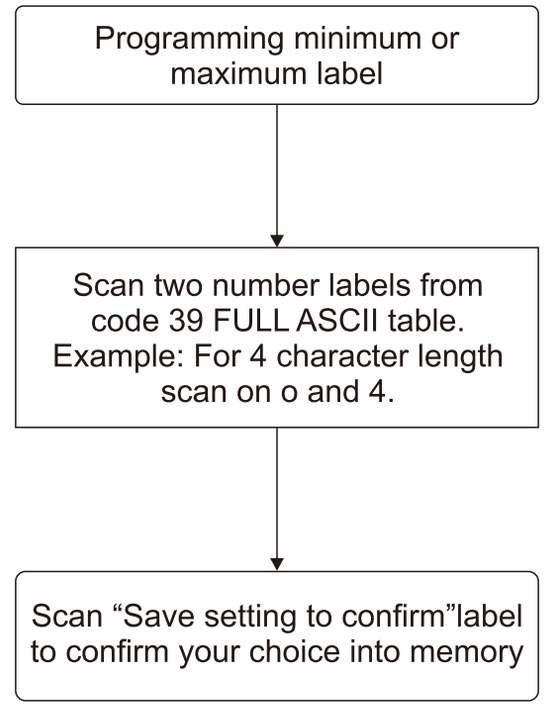
★Codabar start/stop character transmission ---- A, B, C ,D

Codabar start/stop character transmission ---- DC1-DC4

Codabar start/stop character transmission ---- a/t,b/n,c/*,d/e

CODABAR Reading Length Setting

CODE LENGTH SETTING FLOW


Programming minimum or maximum label
Scan two number labels from code 39 FULL ASCII table. Example: For 4 character length scan on o and 4.
Scan “Save setting to confirm”label to confirm your choice into memory

Codabar maximum length setting

Codabar minimum length setting

Save setting to confirm

Concatenation

★Codabar concatenation disable

Codabar concatenation enable

Check Digit

★No check character

Check digit calculate but not transmit

Check digit calculate and transmit

Data Redundant Check

In this section, users can set decoder data redundant check before it is accepted as a good read. A higher data redundant check read setting offers more assurance that a bar code has been read correctly while a lower setting allows faster scanning performance.

★Codabar data redundant check = 0

Codabar data redundant check = 1

Codabar data redundant check = 2

Codabar data redundant check = 3

Code 128 Parameters Setting

In this section, there are varies setting for code 128 symbology, including:

*Check character verification or transmission

*FNC2 concatenation

*Data redundant check

*FNC1 transmission for EAN-128

*Min/Max length setting

Check Digit

No check character

Calculate but not transmit

Calculate and transmit

Code 128 FNC2 Concatenation

This function permits the temporary storage of a code in the decoder if this code starts with FNC 2 character. The message buffered will be concatenated and transmitted with the next code having no FNC 2 character.

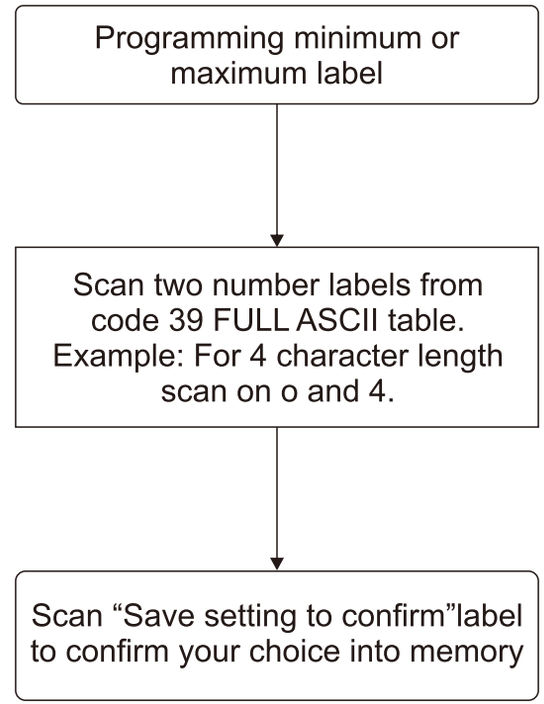
Code 128 FNC2 concatenation enable

★Code 128 FNC2 concatenation disable

Code 128 Reading Length Setting

The default code 128 length is 3 ~62 character. It can be set at minimum 1 digit and maximum 62 digits

CODE LENGTH SETTING FLOW


Programming minimum or maximum label
Scan two number labels from code 39 FULL ASCII table. Example: For 4 character length scan on o and 4.
Scan “Save setting to confirm”label to confirm your choice into memory

Code 128 maximum code setting

Code 128 minimum code setting

Save setting to confirm

EAN-128 FNC1 Character

★EAN-128 FNC1 character transmitted

EAN-128 FNC1 not character transmitted

Data Redundant Check

In this section, users can set decoder data redundant check before it is accepted as a good read. A higher data redundant check read setting offers more assurance that a bar code has been read correctly while a lower setting allows faster scanning performance.

★Code 128 redundant check = 0

Code 128 redundant check = 1

Code 128 redundant check = 2

Code 128 redundant check = 3

ITF 2 of 5 Parameters Setting

In this section, there are varies ITF 2 of 5 symbology including:

*Check character verification or transmission

*Data redundant check

*Two fixed length setting

*Min./Max. length setting

Check Digit

★ITF 2 of 5 no check character

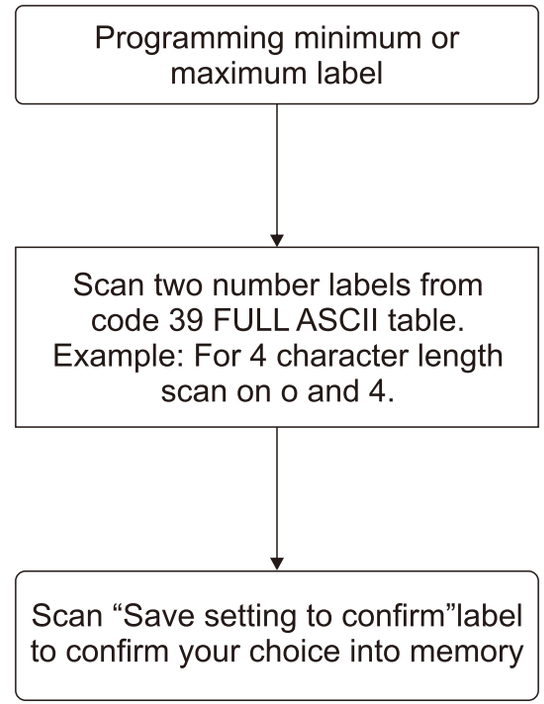
ITF 2 of 5 check digit calculate and transmit

ITF 2 of 5 check digit calculate but without transmit

ITF 2 of 5 Reading Length Setting

The default ITF 2 of 5 length is 6 ~32 character. It can be set at minimum 1 digit and maximum 62 digits.

CODE LENGTH SETTING FLOW


Programming minimum or maximum label
Scan two number labels from code 39 FULL ASCII table. Example: For 4 character length scan on o and 4.
Scan “Save setting to confirm”label to confirm your choice into memory

ITF 2 of 5 code maximum length setting

ITF 2 of 5 code minimum length setting

Save setting to confirm

ITF 2 of 5 one fixed length setting

ITF 2 of 5 two fixed length setting

Data Redundant Check

In this section, users can set decoder data redundant check, before it is accepted as a good read. A higher data redundant check read setting offers more assurance that a bar code has been read correctly, while a lower setting allows faster scanning performance.

★ITF 2 of 5 data redundant check = 0

ITF 2 of 5 data redundant check = 1

ITF 2 of 5 data redundant check = 2

ITF 2 of 5 data redundant check = 3

Chinese Post Code Parameters Setting

In this section, there are varies Chinese post code symbologies including:

*Data redundant check

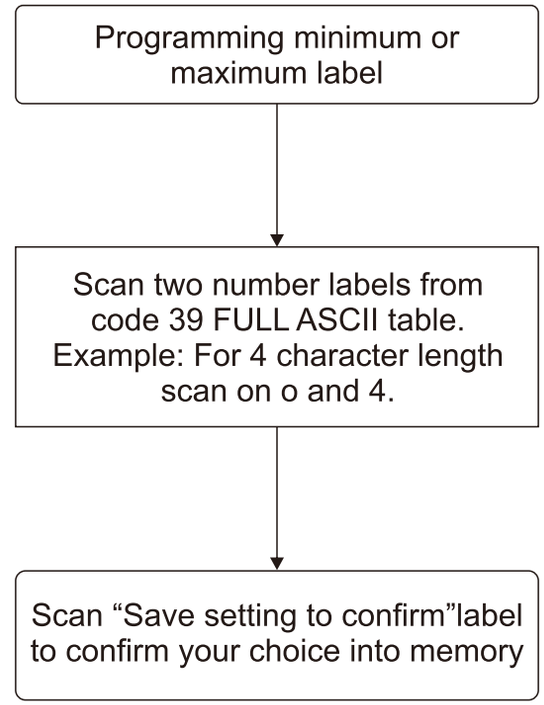
*Min./Max. length setting

Chinese Post Code Reading Length Setting

The default Chinese post code length is 10 ~32 character. It can be set at minimum 1 digit and maximum 62 digits.

In order to avoid missing characters when scanning is incomplete, we recommend using a short-range length or fixed length.

CODE LENGTH SETTING FLOW


Programming minimum or maximum label
Scan two number labels from code 39 FULL ASCII table. Example: For 4 character length scan on o and 4.
Scan “Save setting to confirm”label to confirm your choice into memory

Chinese post code maximum length setting

Chinese post code minimum length setting

Save setting to confirm

Data Redundant Check

The option allows you to set decoder data redundant check before it is accepted as a good read. A higher data redundant check read setting offers more assurance that a bar code has been read correctly while a lower setting allows faster scanning performance.

★Chinese post code data redundant check = 0

Chinese post code data redundant check = 1

Chinese post code data redundant check = 2

Chinese post code data redundant check = 3

MSI/Plessey Parameters Setting

In this section, there are varies MSI/Plessey symbologies including:

*Check character varies verification or transmission

*Data redundant check

*Min./Max. length setting

Double Check Digit

★MSI/Plessey double check digit calculate but not transmit

MSI/Plessey double check digit without calculate and transmit

MSI/Plessey double check digit calculate but only first digit transmit

MSI/Plessey double check digit calculate and both transmit

Single Check Digit

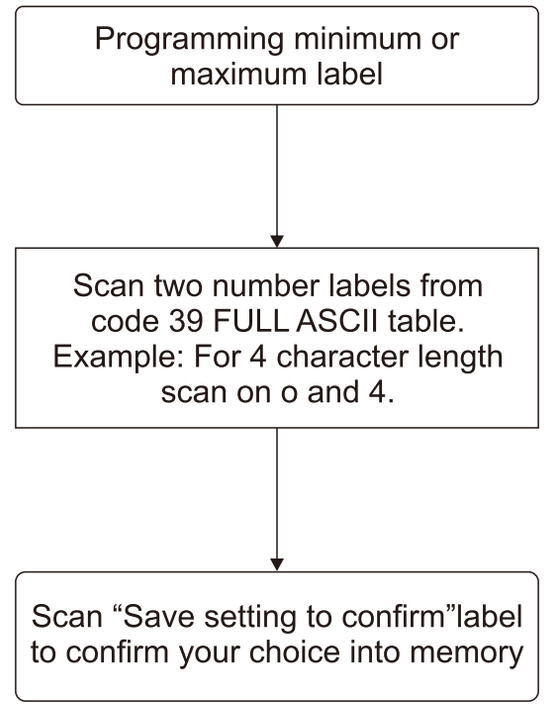
MSI/Plessey single check digit calculate but without transmit

MSI/Plessey single check digit calculate and transmit

MSI/Plessey Code Reading Length Setting

The default MSI/Plessey code length is 6 ~32 character. It can be set at minimum 1 digit and maximum 62 digits.

CODE LENGTH SETTING FLOW


Programming minimum or maximum label
Scan two number labels from code 39 FULL ASCII table. Example: For 4 character length scan on o and 4.
Scan “Save setting to confirm”label to confirm your choice into memory

MSI/Plessey maximum length setting

MSI/Plessey minimum length setting

Save setting to confirm

Data Redundant Check

The option allows you to set decoder data redundant check before it is accepted as a good read. A higher data redundant check read setting offers more assurance that a barcode has been read correctly while a lower setting allows faster scanning performance.

★MSI data redundant check = 0

MSI data redundant check = 1

MSI data redundant check = 2

MSI data redundant check = 3

Code 93 Parameters Setting

In this section, there are varies Code 93 symbologies including:

*Check character varies verification or transmission

*Data redundant check

*Min./Max. length setting

Check Digit

★Code 93 check digit calculate but without transmit

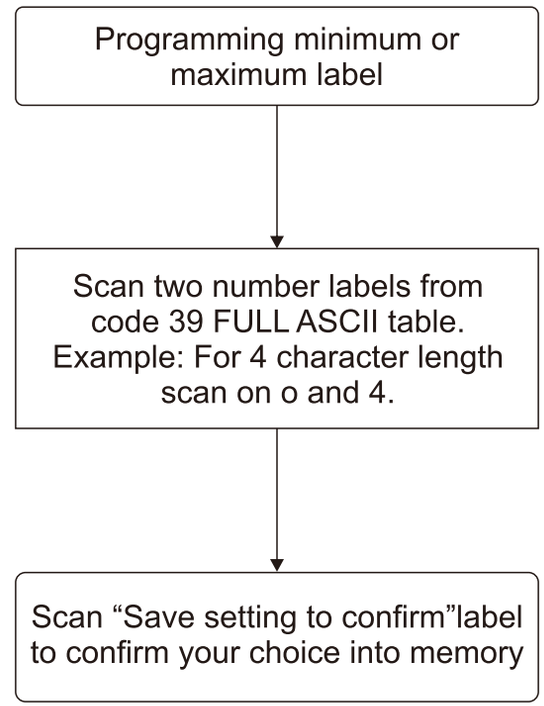
Code 93 check digit not calculate and without transmit

Code 93 check digit calculate and transmit

Code 93 Reading Length Setting

The default Code 93 length is 3 ~32 character. It can be set at minimum 1 digit and maximum 62 digits.

CODE LENGTH SETTING FLOW


Programming minimum or maximum label
Scan two number labels from code 39 FULL ASCII table. Example: For 4 character length scan on o and 4.
Scan “Save setting to confirm”label to confirm your choice into memory

Code 93 maximum length setting

Code 93 minimum length setting

Save setting to confirm

Data Redundant Check

The option allows you to set decoder data redundant check before it is accepted as a good read. A higher data redundant check read setting offers more assurance that a barcode has been read correctly while a lower setting allows faster scanning performance.

★Code 93 data redundant check = 0

Code 93 data redundant check = 1

Code 93 data redundant check = 2

Code 93 data redundant check = 3

RSS-14 Parameters Setting

RSS-14 standard enable

★RSS-14 standard disable

RSS-14 limited enable

★RSS-14 limited disable

RSS-14 expanded enable

★RSS-14 expanded disable

★Transmit RSS-14 check digit

Do not transmit RSS-14 check digit

★Transmit RSS-14 application ID (01)

Do not transmit RSS-14 application ID (01)

RSS-14/EAN-128 emulation enable (]C1)

★RSS-14/EAN-128 emulation disable (]C1)

★Transmit RSS limited check digit

Do not transmit RSS limited check digit

★Transmit RSS limited application ID (01)

Do not transmit RSS limited application ID (01)

★Transmit RSS expanded check digit

Do not transmit RSS expanded check digit

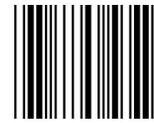
★Enable transmit AI(01) of expanded

Disable transmit AI(01) of expanded

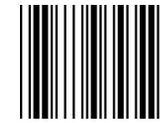
RSS expanded/EAN-128 emulation enable (]C1)

★RSS expanded/EAN-128 emulation disable (]C1)

FULL ASCII CODE TABLE

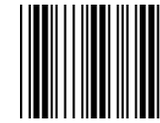


Full ASCII---NUL



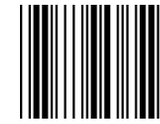
Full ASCII---SOH
(Function key---Ins)

Full ASCII---STX
(Function key---Del)

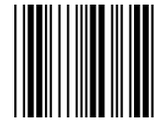


Full ASCII---ETX
(Function key---Home)

Full ASCII---EOT
(Function key---End)



Full ASCII---ENQ
(Function key---Up arrow)



Full ASCII---ACK
(Function key---Down arrow)

Full ASCII---BEL
(Function key---Left arrow)

Full ASCII---BS
(Function key---Backspace)

Full ASCII---HT
(Function key---Tab)

Full ASCII---LF
(Function key---Enter(num))

Full ASCII---VT
(Function key---Right arrow)

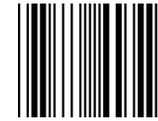
Full ASCII---FF
(Function key---PgUp)

Full ASCII---CR
(Function key---Enter(alphabet))

Full ASCII---SO
(Function key---PgDn)

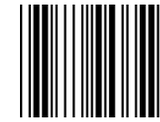
Full ASCII---SI
(Function key---Shift)

Full ASCII---DLE
(Function key---5(num))



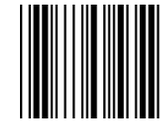
Full ASCII---DC1
(Function key---F1)

Full ASCII---DC2
(Function key---F2)



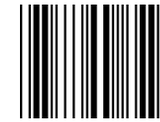
Full ASCII---DC3
(Function key---F3)

Full ASCII---DC4
(Function key---F4)



Full ASCII---NAK
(Function key---F5)

Full ASCII---SYN
(Function key---F6)



Full ASCII---EBT
(Function key---F7)

Full ASCII---CAN
(Function key---F8)

Full ASCII---EN
(Function key---F9)

Full ASCII---SUB
(Function key---F10)

Full ASCII---ESC
(Function key---F11)

Full ASCII---FS
(Function key---F12)

Full ASCII---GS
(Function key---ESC)

Full ASCII---RS
(Function key---Ctl(L))

Full ASCII---US
(Function key---Atl(L))

Full ASCII---SP

Full ASCII---!

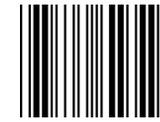
Full ASCII---“

Full ASCII---#

Full ASCII---$

Full ASCII---%

Full ASCII---&



Full ASCII---'

Full ASCII---(

Full ASCII---)

Full ASCII---*

Full ASCII--- +

Full ASCII---,

Full ASCII--- -

Full ASCII---.

Full ASCII---/

Full ASCII---0

Full ASCII---1

Full ASCII---2

Full ASCII---3

Full ASCII---4

Full ASCII---5

Full ASCII---6

Full ASCII---7

Full ASCII---8

Full ASCII---9

Full ASCII--- :

Full ASCII--- ;

Full ASCII--- <

Full ASCII--- =

Full ASCII--- >

Full ASCII--- ?

Full ASCII--- @

Full ASCII--- A

Full ASCII--- B

Full ASCII--- C

Full ASCII--- D

Full ASCII--- E

Full ASCII--- F

Full ASCII--- G

Full ASCII--- H

Full ASCII--- I

Full ASCII--- J

Full ASCII--- K

Full ASCII--- L

Full ASCII--- M

Full ASCII--- N

Full ASCII--- O

Full ASCII--- P

Full ASCII--- Q

Full ASCII--- R

Full ASCII--- S

Full ASCII--- T

Full ASCII--- U

Full ASCII--- V

Full ASCII--- W

Full ASCII--- X

Full ASCII--- Y

Full ASCII--- Z

Full ASCII--- [

Full ASCII--- \

Full ASCII---]

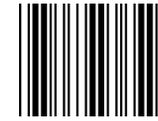
Full ASCII--- ^

Full ASCII--- _

Full ASCII--- `

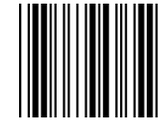
Full ASCII--- a

Full ASCII--- b

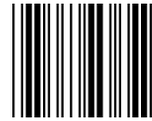


Full ASCII--- c

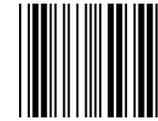
Full ASCII--- d



Full ASCII--- e



Full ASCII--- f



Full ASCII--- g

Full ASCII--- h

Full ASCII--- i

Full ASCII--- j

Full ASCII--- k

Full ASCII--- l

Full ASCII--- m

Full ASCII--- n

Full ASCII--- o

Full ASCII--- p

Full ASCII--- q

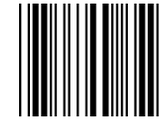
Full ASCII--- r

Full ASCII--- s

Full ASCII--- t

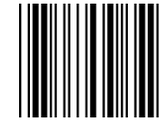
Full ASCII--- u

Full ASCII--- v



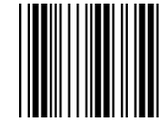
Full ASCII--- w

Full ASCII--- x



Full ASCII--- y

Full ASCII--- z



Full ASCII--- {

Full ASCII--- }

Full ASCII--- |

Full ASCII--- ~

Full ASCII--- DEL

APPENDIXES

Appendix A

CODE 39 FULL ASCII TABLE

ASCII	CODE 39	VAL EUR HEXA
NUL	%U	00
SOH	$A	01
STX	$B	02
ETX	$C	03
EOT	$D	04
ENQ	$E	05
ACK	$F	06
BEL	$G	07
BS	$H	08
HT	$I	09
LF	$J	0A
VT	$K	0B
FF	$L	0C
CR	$M	0D
SO	$N	0E
SI	$O	0F
DLE	$P	10
DC1	$Q	11
DC2	$R	12
DC3	$S	13
DC4	$T	14
NAK	$U	15
SYN	$V	16

ASCII	CODE 39	VAL EUR HEXA
EBT	$W	17
CAN	$X	18
EM	$Y	19
SUB	$Z	1A
ESC	%A	1B
FS	%B	1C
GS	%C	1D
RS	%D	1E
US	%E	1F
SP	SP	20
!	/A	21
“	/B	22
#	/C	23
$	/D	24
%	/E	25
&	/F	26
‘	/G	27
(	/H	28
)	/I	29
*	/J	2A
+	/K	2B
,	/L	2C
-	-	2D

CODE 39 FULL ASCII TABLE

ASCII	CODE 39	VAL EUR HEXA
.	.	2E
/	/	2F
0	0	30
1	1	31
2	2	32
3	3	33
4	4	34
5	5	35
6	6	36
7	7	37
8	8	38
9	9	39
:	/Z	3A
;	%F	3B
<	%G	3C
=	%H	3D
>	%I	3E
?	%J	3F
@	%V	40
A	A	41
B	B	42
C	C	43
D	D	44
E	E	45
F	F	46
G	G	47
H	H	48
I	I	49

ASCII	CODE 39	VAL EUR HEXA
J	J	4A
K	K	4B
L	L	4C
M	M	4D
N	N	4E
O	O	4F
P	P	50
Q	Q	51
R	R	52
S	S	53
T	T	54
U	U	55
V	V	56
W	W	57
X	X	58
Y	Y	59
Z	Z	5A
[	%K	5B
\	%L	5C
]	%M	5D
^	%N	5E
_	%O	5F
`	%W	60
a	+A	61
b	+B	62
c	+C	63
d	+D	64
e	+E	65

CODE 39 FULL ASCII TABLE

ASCII	CODE 39	VAL EUR HEXA
f	+F	66
g	+G	67
h	+H	68
I	+I	69
j	+J	6A
k	+K	6B
l	+L	6C
m	+M	6D
n	+N	6E
o	+O	6F
p	+P	70
q	+Q	71
r	+R	72
s	+S	73
t	+T	74
u	+U	75
v	+V	76
w	+W	77
x	+X	78
y	+Y	79
z	+Z	7A
{	%P	7B
|	%Q	7C
}	%R	7D
~	%S	7E
DEL	%T	7F

Appendix B

FUNCTION KEY EMULATION

ASCII	CODE 39	VAL EUR HEXA
Ins	$A	01
Del	$B	02
Home	$C	03
End	$D	04
Up	$E	05
Down	$F	06
Left	$G	07
Backspace	$H	08
TAB	$I	09
Enter(num)	$J	0A
Right	$K	0B
PgUp	$L	0C
Enter	$M	0D
PgDn	$N	0E
Shift	$O	0F
5(num)	$P	10
F1	$Q	11
F2	$R	12
F3	$S	13
F4	$T	14
F5	$U	15
F6	$V	16
F7	$W	17
F8	$X	18
F9	$Y	19
F10	$Z	1A

ASCII	CODE 39	VAL EUR HEXA
F11	%A	1B
F12	%B	1C
ESC	%C	1D
Ctl(L)	%D	1E
Alt(L)	%E	1F